

INTISARI

Pengaruh Pemberian Yoghurt Probiotik terhadap Kadar Kolesterol pada Penyandang Diabetes Melitus Tipe 2

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Latar Belakang: Diabetes Melitus tipe 2 (DM tipe 2) menjadi 3 besar masalah di Indonesia. Penyebab utama kematian pada penyandang DM tipe 2 adalah komplikasi kardiovaskular yang ditandai dengan kondisi hiperkolesterolemia. Oleh karena itu diperlukan terapi diet sebagai pencegahan sekunder komplikasi kardiovaskular pada penyandang DM tipe 2, sehingga penelitian mengenai efek yoghurt probiotik terhadap kadar kolesterol total pada penyandang DM tipe 2 perlu dilakukan.

Tujuan Penelitian: Mengetahui efek yoghurt probiotik terhadap kadar kolesterol total pada penyandang diabetes melitus tipe 2.

Metode: Penelitian ini merupakan *double blind randomized control trial* dengan subjek penyandang DM tipe 2 sebanyak 28 orang dari 3 Puskesmas di Kota Yogyakarta. Kelompok kontrol diberikan yoghurt konvensional dan kelompok perlakuan diberikan yoghurt probiotik. Kedua kelompok mengonsumsi yoghurt dengan dosis 100 ml/hari selama 4 minggu. Pengukuran kadar kolesterol total dan antropometri dilakukan sebelum dan sesudah penelitian, sedangkan data asupan makan dan aktivitas fisik dikumpulkan setiap 1x/seminggu.

Hasil: Tidak terdapat perbedaan signifikan kadar kolesterol total sebelum dan sesudah intervensi pada kelompok kontrol dan kelompok perlakuan ($p > 0,05$). Namun, pada kedua kelompok terdapat kenaikan kadar kolesterol yang signifikan ($p < 0,05$). Kenaikan kadar kolesterol total pada kelompok kontrol yaitu 42,64 mg/dL (167 - 209,64 mg/dL) dan pada kelompok perlakuan yaitu 30,86 mg/dL (158,43 - 189,29 mg/dL). Terdapat hubungan antara usia (OR=5,25 95% CI 0,70-39,48), asupan serat (OR=2,5 95% CI 0,37-16,89), dan kepatuhan konsumsi obat (0,25 95% CI 0,007-8,56). Namun ketiga hubungan tersebut tidak signifikan ($p > 0,05$). Terdapat penurunan berat badan dan IMT yang signifikan pada kelompok kontrol dan kelompok perlakuan ($p < 0,05$)

Kesimpulan: Yoghurt probiotik dapat mempertahankan kadar kolesterol total penyandang DM tipe 2 pada kelompok perlakuan tetap berada batas normal (< 200 mg/dL).

Kata Kunci: diabetes melitus tipe 2, kolesterol total, yoghurt probiotik, *Lactobacillus*, *Bifidobacterium*

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ABSTRACT

The Effect of Probiotic Yogurt on Total Cholesterol in Patients with Type 2 Diabetes

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Backgorund: Diabetes Mellitus type 2 (T2DM) is one of the 3 largest health issues in Indonesia. The leading cause of mortality in T2DM is cardiovascular complication, characterized by hypercholesterolemia. Therefore, diet therapies are needed as a secondary prevention against cardiovascular complications in patients with T2DM, making it of urgent importance to investigate the effects of yogurt probiotic on total cholesterol in patients with T2DM.

Objective: To investigate the effect of probiotic yogurt on total cholesterol in patients with type 2 diabetes mellitus.

Methods: This study was a double-blind randomized control trial conducted on 28 patients with type 2 diabetes mellitus from 3 primary health care facilities in Yogyakarta. Conventional yogurt was given to the control group and probiotic yogurt was given to the intervention group. Both control and intervention groups received 100 ml of yogurt everyday for 4 weeks. Total cholesterol and anthropometric parameters were assessed before and after intervention period, while 24-hours recall and IPAQ were collected once a week during trial.

Results: There was no different significant of total cholesterol between before and after trial in the control group and intervention group ($p>0,05$). However, in each group, there was a significant increase of total cholesterol ($p<0,05$). The increase in total cholesterol levels for the control group is 42,64 mg/dL (167-209,64 mg/dL) 30,86 mg/dL (158,43-189,29 mg/dL) for the intervention group. There were associations between age (OR=5,25 95% CI 0,70-39,48), dietary fiber (OR=2,5 95% CI 0,37-16,89), and compliance to drug consumption (0,25 95% CI 0,007-8,56). However, the association of these three factors were not significant ($p>0,05$). There was significant reduction of weight and BMI in both groups ($p<0,05$).

Conclusions: Probiotic yogurt is capable of maintaining the total cholesterol level at normal ($<200\text{mg/dL}$) in T2DM patients of the intervention group.

Key Word: type 2 diabetes mellitus, total cholesterol, probiotic yogurt, *Lactobacillus*, *Bifidobacterium*

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